

FORM DESIGN IN WEB APPLICATION USING THE THREE-LAYER MODEL (TLM): A CHECKLIST DEVELOPMENT

A dissertation submitted to the Faculty of Information Technology in partial of
fulfillment of the requirements for the degree
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ABSTRAK

Objektif pengguna melayari halaman web secara umumnya, adalah untuk mencapai maklumat manakala pengguna aplikasi web, mempunyai objektif tertentu iaitu untuk menyempurnakan tugas dengan jayanya. Walaupun begitu, sesetengah permohonan pekerjaan secara online tidak memenuhi reka bentuk berorientasikan tugas dan ini menyebabkan pengguna berasa kecewa. Justeru itu, untuk mengurangkan kekecewaan dan menyediakan garis panduan, senarai semak untuk mereka bentuk borang dibangunkan. Jadi, kajian ke atas borang web semasa, di antara pembangun-pembangun Malaysia dilaksanakan. Empat langkah di dalam metodologi dilaksanakan iaitu: memahami konsep Model Tiga-Lapisan (MTL), membangunkan senarai semak berdasarkan kepada garis panduan, kumpul dan kenalpasti borang web di Malaysia dan akhir sekali mengesahkan senarai semak dan membandingkan borang yang dikumpul dengan Model Tiga-Lapisan. Untuk mengesahkan senarai semak tersebut, 15 responden diminta menjalankan tiga set tugas: pra-ujian, ujian-selepas dan membandingkan dengan tiga borang yang telah dipilih. Keputusan mengandaikan, pelajar mereka bentuk borang web yang lebih baik selepas mempelajari MTL dan ini menyarankan bahawa senarai semak menyediakan garis panduan di dalam mereka bentuk halaman web yang lebih baik. Keputusan juga menunjukkan borang semasa yang direka bentuk oleh pereka Malaysia tidak memenuhi reka bentuk yang berasaskan tugas.

ABSTRACT

The objectives of end users visiting web site are generally for information retrieval whereas for web application, users have specific goals, which are to complete tasks successfully. Nevertheless, some online job applications do not meet task-based orientation design and this resulted in users' frustration. Therefore, for the purpose of reducing the frustration and providing guidelines, a form design checklist was developed. In addition, an investigation of the current state of web form design among Malaysian developers was also conducted. A four-step methodology was followed; understand Three-Layer Model (TLM) concept, develop checklist based on guidelines, collect and identify existing Malaysian web forms, and finally, validate checklist and compare the collected web forms with the Three-Layer Model. In validating the checklist, 15 respondents performed three sets of tasks: pre-test, post-test and comparing three pre-selected online forms. Findings indicated that students designed better web forms after learning about the TLM and this suggests that the checklist provided guidance in designing better web form. Results also pointed out that the current state of web forms designed by Malaysian does not meet task-based orientation design.

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LIST OF ABBREVIATIONS

CHI	Computer-Human Interaction
EPU	Economic Planning Unit
GUI	Graphical User Interface
HCI	Human Computer Interaction
HTML	HyperText Markup Language
OUM	Open University Malaysia
SPA	Suruhanjaya Perkhidmatan Awam malaysia
TLM	Three-Layer Model
WED	Work Enforcement Department
XML	Extensible Markup Language

CHAPTER 1

INTRODUCTION

1.1 The context of the study

Today, the evolution of information access through the Internet is changing the way people live. In actual fact, the introduction of World Wide Web enables people of all ages to use the computer as the service agent to fulfill their information needs. In addition, the emergence of the wireless technology and easier global networking access is a credit to web application.

Web-based applications are becoming the essential information sources to many people from all walks of life. According to Baxley (2003), web applications are different from traditional content-centric web sites because they focus on the application part and the primary purpose of all web applications is to facilitate the completion of one or more tasks. Unlike traditional and content-centric web sites, users of web applications have set their specific goals, tasks and expectations.

Web applications with task-based orientation must ensure that they are capable of calling attention to themselves and completing the tasks. They have also provided users with diversity of objectives and goals and acknowledge users of the task completion. Baxley (2003) dictates that “Web application contains a one-to-one relationship that allows users to establish unique session and relationship with the application”. It requires users to exclusively identify themselves, normally through the identification such as username, password or personalized content. In contrast, content-based web sites or desktop

The contents of
the thesis is for
internal user
only

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